WHAT IS CLAIMED IS:

1. A programmable thermostat system for controlling space conditioning equipment comprising:

A) a temperature sensor for providing an electrical signal indicative of the temperature of a conditioned space in which the temperature sensor is situated;

B) a transparent touch pad juxtaposed over a liquid crystal display to constitute a touch screen for interactive interface with a user;

C) a processor, said processor including:

1) a central processing unit;

2) a real time clock;

3) a memory coupled to said central processing unit for storing program and data information; and

4) an input/output unit coupled between said processor and said touch screen for carrying out information transfer therebetween, said input/output unit further including:

a) a sensor input coupled to said temperature sensor for receiving said electrical signal therefrom; and

b) a control output coupled to the space conditioning equipment for issuing control signals thereto; and

D) a program stored in said memory for causing said central processing unit to communicate through said input/output unit to selectively:

1)a) establish on said liquid crystal display a representation of at least one button at a first predetermined position on the liquid crystal display;

1)b) read the position on the touch pad juxtaposed with said first predetermined position on the liquid crystal display to determine if the representation of said at least one button has been touched; and

1)c) if said at least one representation of a button has been touched, making a predetermined response thereto; and

2)a) periodically read said electrical signal from said temperature sensor;

2)b) in response to the value of the electrical signal read in step D)2)a) determining if at least one control signal to the space conditioning equipment is required in order to maintain the temperature in the conditioned space within a predetermined range; and

2)c) if it determined in step D)2)b) that said at least one signal is required, issuing said at least one control signal.

2. The thermostat system of Claim 1 in which said transparent touch pad is selected from within the classes of touch screens including: resistive matrix, resistive analog, capacitance, scanning infrared, surface wave and near field imaging.

3. A programmable thermostat system for controlling space conditioning equipment comprising:

A) a temperature sensor for providing an electrical signal indicative of the temperature of a conditioned space in which the temperature sensor is situated;

B) a transparent touch pad juxtaposed over a liquid crystal display to constitute a touch screen for interactive interface with a user;

C) a processor, said processor including:

1) a central processing unit;

2) a real time clock;

3) a memory coupled to said central processing unit for storing program and data information; and

4) an input/output unit coupled between said processor and said touch screen for carrying out information transfer therebetween, said input/output unit further including:

a) a sensor input coupled to said temperature sensor for receiving said electrical signal therefrom; and

b) a control output coupled to the space conditioning equipment for issuing control signals thereto; and

D) a program stored in said memory for causing said central processing unit to communicate through said input/output unit to selectively:

1) establish on said liquid crystal display a representation of at least one button at a first predetermined position on the liquid crystal display;

2) read the position on the touch pad juxtaposed with said first predetermined position on said liquid crystal display to determine if the representation of said at least one button has been touched;

3) if said at least one representation of a button has been touched, displaying a plurality of distributed representations of buttons on said liquid crystal display, each button representing a corresponding choice of

thermostat system settings which can be selected by touching said touch pad at the selected representation;

4) read the positions on the touch screen juxtaposed with each of said distributed representations of buttons to determine if at least one representation of a button displayed in step D)3) has been touched; and

5) is said at least one representation of a button displayed in step D)4) has been touched, processing this information to establish a condition incorporated into the operation of said thermostat system.

4. The thermostat system of Claim 3 in which said touch pad is selected from within the classes of touch screens including: resistive matrix, resistive analog, capacitance, scanning infrared, surface wave and near field imaging.

5. The thermostat system of Claim 1 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message for display on said liquid crystal display to convey system information to a user.

6. The thermostat system of Claim 2 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message for display on said liquid crystal display to convey system information to a user.

7. The thermostat system of Claim 3 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message for display on said liquid crystal display to convey system information to a user.

8. The thermostat system of Claim 4 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message for display on said liquid crystal display to convey system information to a user.

9. The thermostat system of Claim 5 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message, for display on said liquid crystal display, setting forth a result which will be achieved is said at least one representation of a button is touched.

10. The thermostat system of Claim 6 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message, for display on said liquid crystal display, setting forth a result which will be achieved is said at least one representation of a button is touched.

11. The thermostat system of Claim 7 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message, for display on said liquid crystal display, setting forth a result which will be achieved is said at least one representation of a button is touched.

12. The thermostat system of Claim 8 in which said central processor selectively generates, from information stored in said memory, an alphanumeric message, for display on said liquid crystal display, setting forth a result which will be achieved is said at least one representation of a button is touched.

13. The thermostat system of Claim 9 in which said central processor selectively generates, from information stored in said memory, a linking indicator extending from proximate said alphanumeric message to said at least one representation of a button to signify their relationship.

14. The thermostat system of Claim 10 in which said central processor selectively generates, from information stored in said memory, a linking indicator extending from proximate said alphanumeric message to proximate said at least one representation of a button to signify their relationship.

15. The thermostat system of Claim 11 in which said central processor selectively generates, from information stored in said memory, a linking indicator extending from proximate said alphanumeric message to proximate said at least one representation of a button to signify their relationship.

16. The thermostat system of Claim 12 in which said central processor selectively generates, from information stored in said memory, a linking indicator extending from proximate said alphanumeric message to proximate said at least one representation of a button to signify their relationship.

17. A programmable thermostat system for controlling space conditioning equipment comprising:

A) a temperature sensor for providing an electrical signal indicative of the temperature of a conditioned space in which the temperature sensor is situated;

B) a transparent touch pad juxtaposed over a liquid crystal display to constitute a touch screen for interactive interface with a user;

C) a processor, said processor including:

1) a central processing unit;

2) a real time clock; and

3) a memory coupled to said central processing unit for storing program and data information; and

D) a program stored in said memory for causing said central processing unit to selectively:

1) establish on said liquid crystal display a first menu which includes a first representation of a button at a first predetermined position;

2) read the position on the touch pad juxtaposed with said first predetermined position to determine if said first representation of a button has been touched;

3) if said first representation of a button has been touched, displaying a second menu which includes a second representation of a button at a second predetermined position;

4) read the position on the touch pad juxtaposed with said second predetermined position to determine if said second representation of a button has been touched; and

5) if said second representation of a button has been touched, processing this information to establish a condition incorporated into the operation of said thermostat system.

18. The thermostat system of Claim 17 in which:

A) during step D)3), said second menu further includes a third representation of a button at a third predetermined position;

B) during step D)4), the position on the touch pad juxtaposed with said third predetermined position is read to determine if said third representation of a button has been touched; and

C) during step D)5), if said third representation of a button has been touched, processing this information to establish a second condition incorporated into the operation of said thermostat system